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Frank A. Mathewson
Government Affairs Director

February 17, 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. - Room 222
Washington, D. C. 20554

RE: Ex parte contact in GEN Docket 90-314

Dear Mr. Caton:

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FEDERAL COMMUNICATIONS COMMISSION OFFICE OF THE SECRETARY

This is to advise that Terry Sterkel and I, of AT&T, and Tom D'Amico of Motorola, met on February 16 with representatives of the Authorization and Evaluation Division at the Commission's laboratory facilities in Columbia, MD. Discussed were the new Part 15, Subpart D Rules. Specifically, the discussion centered on an interoperability standards proposal for wireless premises devices operating under those rules. The proposal has been presented to a variety of vendors of premises devices and is expected shortly to be presented to the ANSI-accredited Committee TR41 for further development and promulgation. The material used during the discussion was the attached preliminary review draft of the proposal.

Due to the meeting time and the distance between the meeting facility and the Secretary's Office, two copies of this Notice are being submitted the following business day to the Secretary of the FCC in accordance with Section 1.1206(a)(1) of the Commission's Rules.

Sincerely,

Frank Wathewson /

Attachment

cc: Julius Knapp

Attributes of Proposed WCPE Standard

- <1.25 MHz occupied bandwidth</p>
- spectrally efficient modulation (π/4 shifted QPSK)
- single transceiver supports up to 12 duplex channels
- · seamless handover between base stations
- bandwidth on demand (duplex data rates up to 384 kbps)
- efficient beacon/marker channels (<1% time occupancy x <1.25 MHz spectrum occupancy)
- efficient spectrum sharing via time and frequency

PRELIMINARY REVIEW DRAFT

TR 41/94.03.07.

PROJECT: North American Wireless Customer Premises Equipment (WCPE)

TITLE: Proposed Interoperability Standard for North American Wireless

Customer Premises Equipment (WCPE).

SOURCE:

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ABSTRACT: The proposed North American WCPE standard is the result of a multicompany initiative to establish an Interoperability Standard for Wireless Communications in the Customer's Premises.

This WCPE Proposed standard is a TDMA/TDD micro-ceil radio communication protocol that provides low power radio access between base and mobile stations. The system is a derivative of the ETSI DECT standard and includes enhancements in spectral efficiency, delay spread performance and fixed-end diversity reciprocity. The WCPE proposed standard is optimized for the unique indoor environment, high customer density and the UPCS Spectrum Allocation for business and residential data, video, voice, interactive, and multimedia communications. (The WCPE proposed standard also has application in the outdoor subscriber pedestrian market, but this is not the purpose of the current proposal.)

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1. INTRODUCTION

1.1 Purpose

The companies proposing this interface believe that the buyers and operators of customer equipment (data, video, voice, interactive, and multimedia) and their service customers will desire the ladded mobility and ease of service location effected by wireless operations. This draft specification addresses those parameters which will create an optimized wireless interface.

1.2 Scope

These technical requirements form an interoperability standard for Wireless Customer Premises Equipment (WCPE). Their purpose is to ensure that a mobile station can obtain service in any WCPE system. These requirements do not address the quality or reliability of that service, nor do they cover equipment performance or measurement procedures.

1.3 General System Description

The NA WCPE proposed standard is a derivative of DECT as defined in the ETSI Document ETS 300 175 "Digital European Cordless Telecommunications Common Interface." As such, it is a micro-cell radio communication system that provides low power radio access between base stations and mobile stations at ranges up to a few hundred meters. In order to optimize cost and performance across widely disparate user and environmental profiles, two classes of WCPE are proposed. Class I provides for 1.152 Mbits/s bit rate and Class II provides for 576 kbit/s bit rate. Mobile stations must provide Class I operation to ensure interoperability. Class II operation is an optional extra-mode added to the Class I operation. It is anticipated that base stations will operate at a fixed rate. The major differences in this interoperability standard and the DECT standard are in the physical layer and related MAC layer, effecting notable improvements in spectral efficiency, range, and delay spread sensitivity with minimal end user complexity increase.

The NA WCPE interface is targeted at the following applications:

- low rate cordiess data
- moderate rate cordiess data
- business cordless telephone
- residential cordless telephone
- interactive services access
- wireless ISDN
- compressed video
- lower rate multi-media access



1.4 Interoperability with other Spectrum Allocations

There are two immediately attainable interoperability opportunities. These are discussed below for completeness but neither are the purpose of nor are developed by this proposed standard.

1.4.1 Direct Operation in Licensed PCS Spectrum

There is a potential for public access service for the above, but that is not the purpose of this proposed standard.

1.4.2 Dual-Mode Operation

The anticipated architecture of devices complying with this interoperability proposed standard makes feasible mobile station dual-mode operation with commonly available PCS and cellular technologies.

1.5 Background

In the United States and Canada, strong demand for a wide range of the service and application that the new wireless technologies support has resulted in decisions to set aside spectrum in the 1900 MHz band. These technologies are lumped under the umbrella of Personal Communications Services. This spectrum is divided into unlicensed and licensed PCS. Unlicensed Spectrum is divided into allocations for asynchronous and isochronous applications. Licensed spectrum is allocated to providers of new fee-based services who are licensed to use this spectrum. The North American WCPE proposed standard is intended to provide an interoperability standard for unlicensed equipment using the isochronous UPCS sub-band (1890 - 1900 Mhz, 1920 - 1930 MHz).

To ensure compatibility, it is essential that both radio-system parameters and call-processing procedures be specified. The speech-filtering, modulation, and RF-emission parameters commonly encountered in two-way radio systems have been updated and expanded to reflect the unique radio plan upon which multi-cell systems are based. The sequence of call processing steps that the mobile stations and Base Stations execute to establish calls has been specified along with the digital control that are exchanged between the two stations.

The Base Station is subject to fewer compatibility requirements than the mobile station. Radiated power levels, both desired and undesired, are fully specified for mobile stations to control the RF interference that one mobile station can cause another. Base Stations are fixed in location and their interference is controlled by proper layout and operation of the system in which the station operates. Detailed call-processing procedures are specified for mobile stations to ensure a uniform response to all Base Stations. This approach to writing the compatibility specification provides the WCPE system designer with sufficient flexibility to respond to local service needs and to account for local topography and propagation conditions.

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1.6 Regulatory Context

Responding to the increasing call for wireless data, voice and video access, the United States and the Canadian Governments are undertaking fundamental changes in the use of spectrum in several bands. Of immediate near term interest is the 1.9 GHz spectrum commonly known as PCS spectrum. Expansion to other specturm, as made available is provided for by the layered architecture. Most, if not all, changes due to added spectrum will be restricted to the physical layer.

1.6.1 United States -- Federal Communication Commission

Details about 15.300 et. at with a pointer to appendix C

1.6.2 Canada -- Industry and Science Canada

Details about 2 GHz spectrum considerations with a pointer to appendix D

1.6.3 Mexico

1.7 Other Standards Efforts

1.7.1 ETSI 300 176 (DECT)

Broad discussion, with a pointer to appendix B

1.7.2 ANSI C63 SC 7

1.7.3 WINForum

1.8 DEFINITIONS

- Access Channel. A control and/or traffic channel used by a mobile station to access a system to obtain service.
- WCPE Registration A process by which a mobile station identifies itself to a WCPE system upon entering the WCPE system's coverage area.
- WCPE Authentication. A process by which a WCPE System confirms that a mobile station requesting access via registration has prior or ad hoc authorization to use the WCPE system.
- Isochronous Transmission. A mode of operation in which a time/frequency combination is reserved and used until the transmission is completed.
- Extended Protocol. An optional expansion of the signaling messages between the Base Station and mobile station to allow for the addition of new system features and operational capabilities.
- Flash Request: A message sent on a voice channel from a mobile station to a Base Station indicating that a user desires to invoke special processing.



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- Forward Control Channel (FOCC) A control channel used from a Base Station to a mobile station.
- Forward Voice Channel (FVC). A voice channel used from a Base Station to a mobile station.
- Hand-off. The act of transferring a mobile station from one voice channel to another.
- Home Mobile Station. A mobile station that operates in the WCPE from which service is subscribed.
- Base Station A station in the WCPE, other than a mobile station, used for radio communications with mobile stations.
- Mobile Identification Number (MIN). A globally unique number assigned to a mobile station.
- Mobile Station. A station in the WCPE intended to be used while in motion or during halts at unspecified points, and unspecified duration...
- Mobile Station Class. Mobile station classes are defined in Table 2.1.2-1.
- Orders The minimum response requests can be sent to a mobile station from a Base Station.
- Paging. The act of seeking a mobile station when an incoming call has been placed to it.
- Registration. The steps by which a mobile station identifies itself to a Base Station as being active in the system at the time the message is sent to the Base Station.
- Release Request. A message sent from a mobile station to a Base Station indicating that the user desires to disconnect the call.
- Reverse Voice Channel (RVC). The voice channel used from a mobile station to a Base Station
- Roamer. A mobile station that operates in a WCPE other than the one stored in its security memory.
- Scan of Channels. The procedure by which a mobile station examines the signal strength of each forward control channel.
- Seizure Precursor. The initial digital sequence transmitted by a mobile station to a Base Station on a reverse control channel.
- Status Information The status information used to describe mobile station operation.
- Voice Channel. A time/frequency channel on which a voice conversation occurs and on which brief digital messages may be sent from a Base Station to a mobile station or from a mobile station to a Base Station.

1.9 Section Summary

As commercial systems evolve there may be a need for additional capabilities primarily in the area of call-processing procedures and new system features. It is important that evolutionary changes be readily accommodated. To that end, these technical requirements have been organized into six general sections. Alterations to 2 and 3 can affect fundamental mobile station - Base Station compatibility. All other sections may be altered without affecting basic compatibility. The following is a summary of each section:

- 1. Introduction. As an introduction to this proposed standard, the purpose and scope statements are provided. This is followed by a list of brief explanations of terms, processes, and functions used in these requirements. Since it is the intention of these requirements to permit great latitude of system configurations and the implementation of system features, only those items required for compatibility have strict definitions. Other items may be interpreted to fit the needs of manufacturers and system operators.
- 2. Mobile Station Requirements. This section comprises the fundamental signaling compatibility requirements of mobile stations. If strictly adhered to, a mobile station technically will be able to signal a Base Station. This section assures communications only if service is not otherwise restricted by operational or signal level constraints. For example, service may be denied for reasons of subscriber credit or because the mobile station is out of the effective range of a Base Station. In general, changes or alterations to this section will affect fundamental mobile Base Station compatibility and the ability of mobile stations to signal Base Stations irrespective of operational or signal level conditions.
- 3. Base Station Requirements. This section comprises the fundamental signaling compatibility requirements of Base Stations and is organized in a manner similar to 2. (In fact, 2 and 3 should be read together for a clearer understanding of the bidirectional signaling protocol.) If strictly adhered to, a Base Station technically will be able to signal a mobile station. As in 2, communications are assured only if not otherwise restricted by factors such as RF signal levels or operational limitations. In general, changes or alterations to this section will affect fundamental mobile Base Station compatibility and the ability of mobile stations to signal Base Stations irrespective of operational or RF signal level conditions.
- 4. Mobile Station Option implementation. This section states requirements for use of optional functions and features by mobile stations. It is concerned with evolutionary changes which do not affect fundamental compatibility but which require strict definition to ensure uniform recognition and implementation of such factors as the order qualifier definitions, extended message protocols, feature coding recommendations, etc. Requirements in this section do not affect the operation of existing mobile stations. Also unaffected is the ability of mobile stations incorporating any of these options to communicate with existing Base Stations.

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- 5. Base Station Option Implementation. This section states requirements for use of optional functions and features by Base Stations. This section is in general organized to follow the sequence of items listed in 4. The reader may thus review the changes in both mobile stations and Base Stations by referring to corresponding paragraphs in 4 and 5. Similar to the requirements for mobile station options, this section defines changes that require strict definition to ensure uniform recognition and utilization of such factors as reserved bits, order qualifier definitions, extended message protocols, feature coding recommendations, etc. Requirements in this section do not affect the operation of existing mobile stations to communicate with Base Stations incorporating any of these options.
- <u>Change History.</u> This section traces all changes to these technical requirements. The purpose and references to each affected section are given for each change.
- Appendix A. Identifies the major disclaimers or references to relevant external issues not controlled by this proposed standard
- Appendix B. Identifies the details of the elements of ETS 300 175 (DECT) elements that are used in this proposed standard
- <u>Appendix C.</u> Provides the details of the sections of the FCC part 15 subpart D (etiquette) that affect this proposed standard, with a cross reference to appropriate sections.
- Appendix D. Provides the details of the sections of the relevant ISC regulations.

1.10 DEFINITION OF "(OPTION)"

Whenever a section has the designation (Option), it is not required to meet either the base WCPE interoperability proposed standard for Class I or Class II systems. However, if the described capability is implemented, then the implementation requirement of the section are mandatory.

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2. MOBILE STATION REQUIREMENTS

2.1 TRANSMITTER

2.1.1 FREQUENCY PARAMETERS

2.1.1.1 CHANNEL SPACING AND DESIGNATION

2.1.1.1.1 Class I NA WCPE

Channel spacing shall be 1250 kHz and the mobile station transmit channel starting at 1890 MHz shall be termed channel number 0. The following table provides the details of the channel spacing and designators.

Table 2.1.1.1.1-1 Class I NA WCPE

Channel Numbers and Francisco

Channel Numbers and Frequencies									
	Start	Transmit	End						
Channel	MHz	Center Frequency	MHz						
0	1890		1891.25						
1	1891.25		1892.5						
2	1892.5		1893.75						
3	1893.75		1895						
4	1895		1896.25						
5	1896.25		1897. 5						
6	1897.5		1898.75						
7	1898.75		1900						
8	1920		1921.25						
9	1921.25		1922.5						
10	1922.5		1923.75						
11	1923.75		1925						
12	1925		1926.25						
13	1926.25		1927.5						
14	1927.5		1928.75						
15	1928.75		1930						



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2.1.1.1.2 Class II NA WCPE

Channel spacing shall be 625 kHz and the mobile station transmit channel starting at 1890 MHz shall be termed channel number 0. The following table provides the details of the channel spacing and designators.

Table 2.1.1.1.2-1
Class II NA WCPE
CHANNEL NUMBERS AND FREQUENCIES

	Start	Transmit	End
Channel	MHz	Center Frequency	MHz
0	1890		1890.625
1	1890.625		1891.25
2	etc.		etc.

2.1.1.2 FREQUENCY TOLERANCE

The mobile station carrier frequency must be maintained within ±ETBD parts per million (ppm) of any assigned channel frequency, except during channel switching (see 2.1.2.1). This tolerance must be maintained over the ambient temperature range of -ETBD degrees Celsius to +ETBD degrees Celsius, and over the supply voltage range of ±ETBD percent from the nominal value, accumulative.



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2.1.1.3 WCPE Channel Characteristics

	Class I NA WCPE	Class II NA WCPE
Time/Spectrum slots per frame	24	12
Carrier Multiplex	TDMA	TDMA
Frame Length	10 milliseconds	10 miliseconds
Multiframe Length	16 frames	16 frames
Slot Duration	~417 microseconds	~833 microseconds
Guard Time	49 microseconds	97 microseconds
Duplex Slot Separation	5 milliseconds	833 microseconds
Duplex Method	TDD	DOT
Gross Bit Rate	1152 kbits/second	576 kbits/second
Gross Symbol Rate	576 ksymbols/second	288 ksymbols/second
Net Channel Rates - B-field/slot	32 Kbits/second	32Kbits/second
Net Channel Rates - A field/slot	6.4 kbits/second	6.4 Kbits/second

2.1.2 Slot Structure for a Single Duplex Bearer

2.1.2.1 Class I NA WCPE

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After Synchronization:

Frame of 10 miliseconds																								
Slot Number	1	2	3	4	5	6	7	8	8	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Bearer Number	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Base Station	тх	ΤX	ΤX	ΤX	тх	ΤX	TX	ΤX	тх	ΤX	ΤX	ΤX	RX											
Mobile Station	RX	TX	тх	тх	тх	TX	ΤX	ТX	TX	тх	ΤX	ΤX	T											

2.1.2.2 Class II NA WCPE

After	Synchronization	١.
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	-			Fra	m e d	f 1 0	m ilis	s e c o	n d s
Slot Number	1	2	3	4	5	6	7	8	9
Bearer Number	1	1	2	2	3	3	4	4	5
Base Station	R X	ΤX	RX	ŤΧ	RX	тх	RX	ТХ	RХ
Mobile Station	ТХ	RX	ТΧ	RX	ΤX	RX	ТХ	RX	ТΧ

2.1.3 POWER OUTPUT CHARACTERISTICS

2.1.3.1 Carrier On/Off Conditions

The carrier-off condition is defined as a power output at the transmitting antenna connector not exceeding -TBD dBm. When commanded to the carrier-on condition on a reverse control channel, a mobile station transmitter must come to within TBD dB of the specified output power (see 2.1.2.2) and to within the required stability (see 2.1.1.2) within TBD μs. Conversely, when commanded to the carrier-off condition, the transmit power must fall to a level not exceeding -TBD dBm within TBD μs. Whenever a transmitter is more than TBD kHz from its initial or final value during channel switching, the transmitter carrier must be inhibited to a power output level not greater than -TBD dBm.

2.1.3.2 Power Output

The maximum effective transmit power output shall be 19.6 dBm for class 1 transmitter and 18.1 dBm for class 2 transmitter.

2.1.3.3 Power Control (Option)

See section 1.12 for use of this section.

All mobile station transmitters must be capable of reducing power in steps of TBD dB on command from a Base Station (see 2.6.3.3, 2.6.3.5, 3.7.1.1, 3.7.1.2.4, and 3.7.2) specifying the power level 0 to TBD. Each power level must be maintained within the range of +TBD dB and -TBD dB of its nominal level, unless otherwise indicated, over the ambient temperature range of -TBD degrees Celsius to +TBD degrees Celsius, and over the supply voltage range of ±TBD percent from the nominal value, accumulative.

2.1.4 MODULATION CHARACTERISTICS

Modulation will be $\pi/4$ shifted QPSK.

2.1.5 VOICE SIGNALS

Voice Signals will be encoded with ADPCM encoding at a bit rate of 32 kbits/second.

- 2.1.6 WIDEBAND DATA SIGNALS
- 2.1.6.1 **ENCODING**
- 2.1.6.2 MODULATION AND POLARITY
- 2.1.7 LIMITATIONS ON EMISSIONS
- 2.1.7.1 BANDWIDTH OCCUPIED

FCC rules apply.

- 2.1.7.2 CONDUCTED SPURIOUS EMISSIONS
- 2.1.7.2.1 SUPPRESSION INSIDE UPCS SUB-BAND
- 2.1.7.2.2 SUPPRESSION BETWEEN UPCS SUB-BANDS
- 2.1.7.2.3 SUPPRESSION OUTSIDE UCPCS SUB-BAND

Current FCC rules shall apply.

2.1.7.3 RADIATED SPURIOUS EMISSIONS

FCC rules apply.

- 2.2 RECEIVER
- 2.2.1 FREQUENCY PARAMETERS
- 2.2.1.1 CHANNEL SPACING AND DESIGNATION

In accordance with section 2.1.1.1

2.2.2 DEMODULATION CHARACTERISTICS

2.2.3 LIMITATIONS ON EMISSIONS

2.2.3.1 CONDUCTED SPURIOUS EMISSIONS

2.2.3.1.1 SUPPRESSION INSIDE UPCS SUB-BAND

2.2.3.1.2 SUPPRESSION BETWEEN UPCS SUB-BANDS

2.2.3.1.3 SUPPRESSION OUTSIDE UPCS SUB-BAND

Current FCC rules shall apply.

2.2.3.2 RADIATED SPURIOUS EMISSIONS

Current FCC rules shall apply.

2.2.4 OTHER RECEIVER PARAMETERS

2.3 HAND OFF, DIVERSITY, AND ECHO CONTROL

2.3.1 HANDOFF

Hand off is controlled by the mobile station taking readings and signalling the appropriate base station(s).

2.3.2 DIVERSITY (OPTION).

See section 1.12 for definition on use of this section.

Diversity is achieved at the mobile station using N Antenna, where N is a positive integer.

2.3.3 ECHO CONTROL

TBD Echo control is required.

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2.4 SECURITY AND IDENTIFICATION

- 2.5 SUPERVISION
- 2.6 MALFUNCTION DETECTION
- 2.6.1 MALFUNCTION TIMER
- 2.6.2 FALSE TRANSMISSION

2.7 CALL PROCESSING

The following sections describe mobile station operation as controlled by a Base Station. Frequent references are made to the corresponding sections in the Base Station section and to the messages that flow between a Base Station and a mobile station. It is helpful to read 2.6 and 3.6 in parallel and examine the message formats in 2.7 and 3.7 at the same time.

2.8 SIGNALING FORMATS

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3. BASE STATION REQUIREMENTS

- 3.1 TRANSMITTER
- 3.1.1 FREQUENCY PARAMETERS
- 3.1.2 POWER OUTPUT CHARACTERISTICS
- 3.1.3 MODULATION CHARACTERISTICS
- 3.1.4 LIMITATIONS ON EMISSIONS
- 3.2 RECEIVER
- 3.2.1 FREQUENCY PARAMETERS
- 3.2.2 DEMODULATION CHARACTERISTICS
- 3.2.3 OTHER RECEIVER PARAMETERS
- 3.3 HAND OFF, DIVERSITY, AND ECHO CONROL
- 3.4 SECURITY AND IDENTIFICATION
- 3.5 SUPERVISION
- 3.6 MALFUNCTION DETECTION
- 3.7 CALL PROCESSING

The following sections describe the Base Station operation to control the mobile station. Frequent references are made to the corresponding sections in the mobile section and to the messages that flow between the Base Station and the mobile station. It is helpful to read 2.6 and 3.6 in parallel and examine the message formats in 2.7 and 3.7 at the same time

- 3.7.1 OVERHEAD FUNCTIONS FOR MOBILE STATION INITIATION
- 3.7.2 MOBILE STATION CONTROL ON THE CONTROL CHANNEL
- 3.7.3 BASE STATION SUPPORT OF SYSTEM ACCESS BY MOBILE STATIONS
- 3.7.4 MOBILE STATION CONTROL ON VOICE CHANNEL
- 3.8 SIGNALING FORMATS

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A MOBILE STATION OPTION IMPLEMENTATION

4.1 PURPOSE

The following optional additions to Section 2 provide the structure and signaling procedures to allow new messages and data to be sent to or transmitted by mobile stations. The term "mobile stations" is used in the generic sense as indicated in Note 2 and includes transportable, handheld and fixed station units as well as mobiles mounted in vehicles.

The purpose of this option is to extend the signaling capabilities of the Base Station/Mobile Station interface to allow new features and operational capabilities to be added to existing and future multi-cell systems.

The Extended Protocol structure and signaling have been designed to allow all four of the following combinations of systems and mobile stations to be simultaneously operational.

- 1. Class I base systems operating with Class I mobile stations;
- 2. Class I base systems operating with Class I mobile stations with extended feature set;
- 3. Extended feature set base systems operating with Class I mobile stations; and
- 4. Extended feature set base systems operating with other vendor extended feature set mobile stations.

<It is likely that there will be a multiplicity of "extended feature sets." Should we pre-assign "designators" for each of the application profiles, assigning an appendix to each, keeping the standard open to allow easy inclusion of a vendors extended features? Just a thought.>

5. BASE STATION OPTION IMPLEMENTATION

WCPE-1D.DOC,

CHANGE HISTORY

Revision	Date	Reason	Reference	
1.0b	1/26/94	Review Draft		
1. 0c	1/28/94	Correct Errors and Grammar		
1. 0d	2/3/94	Correct Errors and Clarify		
		Definitions		

6. APPENDIX A NOTES AND DISCLOSURES

- 1. Compatibility, as used in connection with these PROPOSED STANDARDS, is understood to mean: Any mobile station is able to place and receive calls in any WCPE system if so authorized. Conversely all systems are able to place and receive calls for any mobile station if so authorized.
- 2. The term "mobile station" is defined as one "... intended to be used while in motion or during halts at unspecified points." It is assumed that mobile stations primarily refer to portable units (e.g., hand-held 'personal' units) but may include units installed in specific semi-mobile locations such as desks...
- 3. This compatibility specification is based upon the specific US spectrum allocation for UPCS systems, Sp[ecifically CFR 47 Part 15 subpart D, sections 15:300 15:329. Parallel enabling allocations are expected to be established in Canada.
- 4. The user's attention is called to the possibility that compliance with this [interim] PROPOSED STANDARD may require use of one or more inventions covered by patent rights. By publication of this [interim] PROPOSED STANDARD, no position is taken with respect to the validity of those claims or of any patent rights in connection therewith. The patent holders so far identified have, however, filed statements of willingness to grant licenses under those rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such licenses. Details may be obtained from the publisher.

7. APPENDIX B ETS 300 175 CROSS REFERENCE

- 7.1 ETS 300 175 -1 Cross Reference
- 7.2 ETS 300 175 -2 Cross Reference
- 7.3 ET\$ 300 175 -3 Cross Reference
- 7.4 ETS 300 175 -4 Cross Reference
- 7.5 ETS 300 175 -5 Cross Reference
- 7.6 ETS 300 175 -6 Cross Reference
- 7.7 ETS 300 175 -7 Cross Reference
- 7.8 ETS 300 175 -8 Cross Reference
- 7.9 ETS 300 175 -9 Cross Reference
- 8. APPENDIX C FCC PART 15 SUBPART D CROSS REFERENCE
- 9. APPENDIX D CANADA (ISC) REGULATORY CROSS REFERENCE